



Can the 2011 East African drought be attributed to human-induced climate change?

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Year: 2013
Journal: Geophysical Research Letters. 40 (6): 1177-1181

Abstract:

This study applies the technique of event attribution to the East African rainy seasons preceding the drought of 2011. Using observed sea surface temperatures (SSTs), and sea ice conditions with a state-of-the-art atmosphere model, the precipitation totals during late 2010 (the "short rains") and early 2011 (the "long rains") were simulated hundreds of times to produce possible distributions of precipitation. Alternative distributions of precipitation were produced, consistent with a world with neither anthropogenic forcings nor human influence on SSTs and sea ice. Comparing these modeled distributions to the observed rainfall, no evidence was found for human influence on the 2010 short rains, with their failure being affected by La Nina. However, human influence was found to increase the probability of long rains as dry as, or drier than, 2011. The magnitude of increase in probability depends on the estimated pattern by which human influence changed observed SSTs.

Source: <http://dx.doi.org/10.1002/grl.50235>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Drought

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Africa

African Region/Country: African Region

Climate Change and Human Health Literature Portal

Other African Region: East Africa

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified